

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Inquiry Concerning the Deployment of)	GN Docket No. 15-191
Advanced Telecommunications Capability)	
to All Americans in a Reasonable and)	
Timely Fashion, and Possible Steps to)	
Accelerate Such Deployment Pursuant to)	
Section 706 of the Telecommunications)	
Act of 1996, as Amended by the)	
Broadband Data Improvement Act)	

**REPLY COMMENTS
of
UNITED STATES CELLULAR CORPORATION**

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SUMMARY

Numerous commenters support U.S. Cellular's position that the Commission should include an analysis and findings regarding mobile broadband deployment in its next broadband progress report, and that the Commission should find that mobile broadband currently is not being deployed in a reasonable and timely fashion.

Although some parties argue that mobile broadband is sufficiently available to support a positive finding by the Commission pursuant to Section 706 of the Telecommunications Act of 1996, U.S. Cellular demonstrates that data suggesting widespread deployment of mobile broadband is neither reliable nor accurate, and that parties advocating a positive finding ignore the fact that many consumers across rural America lack access to advanced mobile broadband networks.

While some commenters object to the Commission's adopting a 10 Mbps/1 Mbps speed benchmark for mobile broadband, U.S. Cellular shows that establishing this aspirational benchmark is consistent with the Commission's policies and goals and will serve as an appropriate and accurate measure for determining whether mobile broadband networks are being deployed in a reasonable and timely manner throughout the country.

Apart from the speed benchmark, however, U.S. Cellular agrees with numerous commenters that the Commission should refrain from imposing any additional performance criteria or benchmarks for use in its Section 706 analysis and findings.

U.S. Cellular agrees with commenters who argue persuasively that the Commission should make a negative finding pursuant to Section 706 regarding the sufficiency of broadband deployment unless the Commission determines that both mobile and fixed broadband are being deployed in a reasonable and timely manner.

Finally, the record reflects considerable support for U.S. Cellular's advocacy that, if the Commission makes the likely finding that mobile broadband networks currently are not being deployed in a reasonable and timely fashion, then the Commission should pursue its Section 706 mandate to promote mobile broadband deployment by revisiting its universal service policies and mechanisms for the purpose of targeting additional support for mobile broadband deployment.

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United States Cellular Corporation (“U.S. Cellular”), by counsel, hereby submits these Reply Comments, responding to the Commission’s Eleventh Broadband Progress Notice of Inquiry in the above-captioned proceeding¹ and addressing comments filed by interested parties in the proceeding.

¹ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, Eleventh Broadband Progress Notice of Inquiry, FCC 15-101 (rel. Aug. 7, 2015) (“Notice”). The due date for reply comments was extended from September 23, 2015, to September 30, 2015. *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, Order, DA 15-923 (rel. Aug. 13, 2015).

I. INTRODUCTION.

There is general agreement among commenters responding to the *Notice* that the Commission’s analysis and findings pursuant to Section 706 of the Telecommunications Act of 1996 (“Section 706”)² should include an assessment of whether mobile broadband is being deployed in a reasonable and timely fashion.

On the other hand, commenters express differing views regarding (1) whether a positive Section 706 finding regarding the deployment of broadband must be based on a determination that both mobile and fixed broadband are being deployed in a reasonable and timely fashion; (2) whether a speed benchmark should be adopted for mobile broadband, and, if so, what speeds should be specified; and (3) whether the Commission should find that mobile broadband currently is being deployed in a fashion that meets the “reasonable and timely” test.

These three issues should be examined, at least in part, through the prism of what is happening with broadband deployment in rural America. The fact is that broadband deployment—both fixed and mobile—continues to lag behind in rural communities. The Commission has expressed concerns about this problem, recently doing so in its *2015 Broadband Progress Report*.³ Bringing mobile broadband into the Commission’s Section 706 analysis and findings will help to guide and energize Commission efforts to accelerate mobile broadband deployment throughout rural America, and to advance efforts to bridge the rural-urban digital divide.

² 47 U.S.C. § 1302. Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996), as amended by the Broadband Data Improvement Act, Pub. L. No. 110-385, 122 Stat. 4096 (2008), and as codified in Title 47, Chapter 12, of the United States Code.

³ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 14-126, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd 1375, 1378 (para. 5) (2015) (“*2015 Broadband Progress Report*”).

First, given the importance of mobile broadband, especially in rural areas, and given the unique capabilities of mobile broadband that distinguish it from fixed broadband (most importantly, the “mobility” of mobile broadband), the Commission should require a separate finding that mobile broadband and fixed broadband are being deployed in a reasonable and timely fashion as a prerequisite to any determination that, overall, broadband deployment is passing the “reasonable and timely” test.

Second, the Commission should establish a forward-looking 10 Mbps/1 Mbps speed benchmark for mobile broadband for purposes of its Section 706 analysis and findings, since this benchmark will help to ensure that consumers in rural areas have access to advanced mobile broadband networks.

And, third, applying a 10 Mbps/1 Mbps speed benchmark for mobile broadband will likely result in a finding that broadband deployment currently is not meeting the “reasonable and timely” test, because data will likely show that this speed benchmark currently is not being achieved in many rural areas throughout the country. Commenters arguing that the Commission should find that mobile broadband is being deployed in a reasonable and timely fashion fail to analyze the status of deployment in rural America. In addition, Commission reports and National Broadband Map (“NBM”) data indicating nearly ubiquitous deployment of advanced broadband networks emphasize nationwide deployment, with little focus on the level of deployment in rural areas, and also rely on data that likely overstates the extent of deployment.

Finally, while the Commission will continue to have an ongoing statutory obligation to provide rural consumers with sufficient access to mobile broadband networks, commenters agree with U.S. Cellular that a negative Section 706 finding will also trigger a specific mandate for the Commission to recommit its policies and resources toward the objective of bringing advanced

mobile broadband to rural America. There is support in the record for many of U.S. Cellular’s suggestions concerning specific steps the Commission should take to redirect its universal service program to better facilitate and support mobile broadband deployment.

II. DISCUSSION.

The Commission should include mobile broadband in its Section 706 analysis and findings, adopt a 10 Mbps/1 Mbps mobile broadband speed benchmark, base its findings on whether *both* mobile and fixed broadband deployment meet the “reasonable and timely” test, conclude that mobile broadband deployment does not meet this test, and carry out its Section 706 mandate by redirecting universal service support to ensure that rural consumers have access to advanced mobile broadband networks.

A. There Is Strong Support in the Record for Including Mobile Broadband in the Commission’s Section 706 Analysis.

The Commission seeks comment in the *Notice* on “whether advanced telecommunications capability should be defined to include capabilities of mobile broadband such as mobility”⁴ for purposes of the Commission’s analysis and findings pursuant to Section 706. U.S. Cellular supports such an approach,⁵ and numerous parties agree.

CCA, for example, answers the Commission’s question regarding whether to include mobile broadband in its analysis with “a resounding ‘yes[,]’”⁶ observing that “American consumers

⁴ *Notice* at para. 8.

⁵ U.S. Cellular Comments at 4.

⁶ Competitive Carriers Association (“CCA”) Comments at 2. *See* AT&T Inc. (“AT&T”) Comments at 2 (noting that “AT&T does not object to consideration of mobile broadband services in an inquiry as to whether advanced telecommunications capability is being reasonably and timely deployed in the United States”); Free State Foundation (“FSF”) Comments at 4; Public Knowledge Comments at 6-7; United States Telecom Association (“USTelecom”) Comments at 6; Verizon Comments at 2, 7.

continue to express their overwhelming preference for mobile broadband service, in many cases making it their exclusive choice.”⁷

Many parties also agree with U.S. Cellular’s explanation that the Commission’s expansion of its Section 706 analysis and findings to include mobile broadband would be a logical outgrowth of the fact that “mobile broadband has become increasingly important” to consumers.⁸ The Free State Foundation observes that “[p]ublicly available data confirms that consumers are increasingly relying on wireless for Internet access. And wireless offers increasing value to consumers and to the overall economy.”⁹ CTIA indicates that “the Section 706 Report should account for the significant role that mobile broadband plays in Americans’ lives.”¹⁰

One commenter—CPUC—recommends that the Commission defer its decision on including mobile broadband in its definition of advanced telecommunications capability until the Commission confirms that it has reliable data relating to mobile broadband deployment, and it has

⁷ CCA Comments at 2.

⁸ U.S. Cellular Comments at 4.

⁹ FSF Comments at 9.

¹⁰ CTIA–The Wireless Association® (“CTIA”) Comments at 2. *See id.* at 3 (footnote omitted) (indicating that, “[b]y the end of 2014, there were 68.2 million active data-only devices in use, a one-third increase over 2013. Moreover, a recent survey shows that the average U.S. household now has 5.3 connected devices, with more than 37 percent of the households having between four and eight connected devices.”); AT&T Comments at 10 (footnote omitted) (stating that “[a] recent report shows that Americans now spend more of their Internet time on mobile devices (about 60 percent) than on wireline devices (about 40 percent). Moreover, an increasing portion of Americans are cutting their wireline usage altogether, relying solely on mobile devices for broadband and voice services.”); CCA Comments at 4-6, 7; Deere & Company (“Deere”) Comments at 7 (noting that “[m]obile services are essential to broadband deployment in rural and remote areas where infrastructure, land acquisition and right of way costs are higher on a per capita basis than that of urban and suburban areas and where deployments have lagged”); Public Knowledge Comments at 1.

adopted mobile broadband performance benchmarks.¹¹ As U.S. Cellular will discuss in a later section,¹² FCC Form 477 data available to the Commission will hopefully provide sufficient information to evaluate whether mobile broadband is being deployed in a reasonable and timely fashion, and the Commission can also be engaged on an ongoing basis in refining the data upon which it relies to make these evaluations.

Moreover, U.S. Cellular sees no need for the Commission to first adopt performance benchmarks and then subsequently make a decision regarding the inclusion of mobile broadband. It will be administratively efficient for the Commission to take both these steps in its next broadband progress report. In the *2015 Broadband Progress Report*, for example, the Commission adopted a new 25 Mbps/3 Mbps fixed broadband speed benchmark, and applied that new benchmark for purposes of its analysis and findings in that *Report*.¹³

B. A Commission Finding That Broadband Is Being Made Available in a Reasonable and Timely Fashion Should Be Based on Its Determination That Both Mobile and Fixed Broadband Meet This Test.

The *Notice* seeks comment on “whether advanced telecommunications capability should be deemed to be available in an area only when both fixed and mobile broadband meeting our benchmark standards are available.”¹⁴

U.S. Cellular agrees with CCA that, “[b]ased on consumers’ growing and varied reliance on mobile broadband, the Commission should treat access to both mobile and fixed broadband as

¹¹ California Public Utilities Commission (“CPUC”) Comments at 3.

¹² See Section II.C.2., *infra*.

¹³ *2015 Broadband Progress Report*, 30 FCC Rcd at 1393-94 (para. 26) (footnote omitted) (indicating that, “[f]or purposes of this Report, we conclude that meeting the definition of ‘advanced telecommunications capability’ requires consumers to have access to actual download (i.e., to the customer) speeds of at least 25 Mbps and actual upload (i.e., from the customer) speeds of at least 3 Mbps (25 Mbps/3 Mbps)”).

¹⁴ *Notice* at para. 8.

necessary components of advanced telecommunications capability.”¹⁵ This approach would be a reasonable exercise of the Commission’s discretion in carrying out its Section 706 responsibilities because, as the Commission explains, “mobile broadband appears to address different consumer telecommunications needs and provide different capabilities than fixed terrestrial broadband”¹⁶

A few parties object to any requirement that both mobile and fixed broadband must be available to support a positive Section 706 finding by the Commission regarding the availability of advanced telecommunications capability because, as Mobile Future contends, “Section 706 is ... technology neutral, defining advanced telecommunications capability without regard to any transmission media or technology”¹⁷ U.S. Cellular does not find this argument persuasive, especially in light of the Commission’s analysis that requiring both mobile and fixed broadband availability would be consistent with “the section 706 instruction to define advanced telecommunications capability without regard to any transmission media or technology, since the critical difference between fixed and mobile product offerings is mobility, not any transmission media or technology.”¹⁸

U.S. Cellular also agrees with the Commission that, as a practical matter, it is reasonable to require the availability of both mobile and fixed broadband, because “mobile broadband appears

¹⁵ CCA Comments at 8 (footnote omitted). *See* Wireless Internet Service Providers Association (“WISPA”) Comments at 3 (arguing that, “[t]o determine whether and to what extent advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion, the Commission must treat the fixed and mobile markets separately”).

¹⁶ *Notice* at para. 28. *See* NTCA—The Rural Broadband Association, WTA—Advocates for Rural Broadband, Eastern Rural Telecom Association, and National Exchange Carrier Association, Inc. (collectively, the “Associations”) Comments at 7 (arguing that “the Commission’s own findings ... make clear that consumers use fixed and mobile broadband differently and have different expectations of each service”).

¹⁷ Mobile Future Comments at 5 (internal quotation marks omitted). *See* Verizon Comments at 8.

¹⁸ *Notice* at para. 28 (footnote and internal quotation marks omitted).

to address different consumer telecommunications needs and provide different capabilities than fixed terrestrial broadband”¹⁹ For rural consumers, it is important that their opportunities to gain access to advanced mobile broadband technologies and services will be enhanced by the Commission’s efforts, including actions to carry out its Section 706 mandate if it determines that advanced mobile telecommunications capability is not available in rural areas.

C. The Commission Should Adopt a Mobile Broadband Speed Benchmark of 10 Mbps/1Mbps for Purposes of Its Section 706 Analysis and Findings.

The Commission asks whether, if it determines that consumers require access to both fixed broadband and mobile broadband in order for it to make an overall finding that consumers have access to advanced telecommunications capability, the Commission should adopt a speed benchmark for mobile broadband service that is lower than the 25 Mbps/3 Mbps speed benchmark it has applied to fixed broadband for purposes of its Section 706 analysis and findings.²⁰

The Commission specifically asks whether a mobile speed benchmark of 10 Mbps/1 Mbps would be appropriate, or whether a lower benchmark would be more reflective of current consumer experiences with mobile broadband service.²¹ U.S. Cellular supports adoption of “an aspirational

¹⁹ *Id.* ADTRAN contends that the distinction between mobile and fixed broadband described by the Commission is not tenable because “many fixed broadband services providers offer a degree of mobility through WiFi access that is part of the fixed broadband offering. Likewise, ... mobile broadband can serve as a fixed base from which to tether multiple devices” ADTRAN, Inc. (“ADTRAN”) Comments at 14 (footnote omitted). In U.S. Cellular’s view, the degree of mobility referenced by ADTRAN as being associated with fixed broadband services is not sufficient to support an argument that mobile and fixed broadband are the same—and not different—services. WiFi does not transform fixed broadband into a *mobile* service. Similarly, U.S. Cellular disagrees with NCTA’s contention that, “[w]hile fixed and mobile services obviously have different strengths, it is wrong to suggest that neither one can individually satisfy the needs of consumers or the definition of advanced telecommunications capability.” National Cable & Telecommunications Association (“NCTA”) Comments at 11. NCTA ignores the fact that fixed broadband—by definition—simply cannot provide mobility, and that mobility is an essential ingredient of broadband services sought and needed by many consumers, especially in rural America.

²⁰ *Notice* at para. 22.

²¹ *Id.* at para. 30.

10 Mbps/1 Mbps speed benchmark for mobile broadband[.]”²² and finds commenters’ arguments against such an approach unavailing.

1. There Are Sound Policy Reasons for Adopting a Forward-Looking Speed Benchmark.

U.S. Cellular has argued that the Commission should adopt a lower speed benchmark for mobile broadband than the 25 Mbps/3 Mbps benchmark adopted by the Commission for fixed broadband services,²³ and U.S. Cellular agrees with CCA’s observation that “[t]he Commission should recognize laws of engineering and physics when establishing its speed thresholds, being mindful of the types of technologies and services that consumers demand from their mobile broadband connections.”²⁴ Moreover, a lower speed benchmark for mobile broadband services is warranted in light of the Commission’s view that “a number of factors indicat[e] that mobile and fixed broadband appear to be different services in a number of respects under current technological and economic conditions, and that each currently appears best suited to serve different consumer needs.”²⁵

While a mobile broadband benchmark lower than the 25 Mbps/3 Mbps fixed broadband benchmark is reasonable and fully justified, the next issue involves the specific speed levels the Commission should set for the mobile broadband benchmark. U.S. Cellular favors a 10 Mbps/1 Mbps benchmark because it is aspirational, and therefore consistent with the objectives of Section 706. As the Commission has explained:

²² U.S. Cellular Comments at 15.

²³ *Id.* at 14. See *2015 Broadband Progress Report*, 30 FCC Rcd at 1403 (para. 45) (2015) (footnotes omitted) (finding that a 25 Mbps/3 Mbps fixed broadband benchmark reflects “advanced” telecommunications capability).

²⁴ CCA Comments at 9.

²⁵ *Notice* at para. 3.

By requiring the Commission to conduct an inquiry on advanced telecommunications capability, Congress did not intend for the Commission to measure merely what is commonplace and available to all or almost all, but also to identify emerging needs and capabilities. Congress directed that we measure—and take steps necessary to promote—deployment of those advanced offerings.²⁶

AT&T faults the Commission for “literally pluck[ing] [the 10 Mbps speed minimum] from thin air[,]”²⁷ and chides the Commission for “twist[ing] the statute so that advanced telecommunications capability is defined to embody the Commission’s ‘stretch’ goals, effectively judging the industry in relation to download speeds that the most data-intensive users would desire.”²⁸ AT&T contends that a better interpretation of Section 706 is that it “act[s] as a kind of emergency alarm system; the Commission is supposed to determine whether deployment is lagging materially behind what the industry could reasonably achieve”²⁹

U.S. Cellular disagrees with each of AT&T’s contentions. *First*, a 10 Mbps/1 Mbps benchmark is a probative, forward-looking yardstick for gauging whether mobile broadband is being deployed in a reasonable and timely fashion. As discussed above, matching the mobile broadband benchmark with the 25 Mbps/3 Mbps benchmark for fixed broadband would ignore differences between the two services, the need for many carriers to gain access to additional spectrum to achieve higher speeds, as well as the “laws of engineering and physics.” On the other hand, setting a benchmark below 10 Mbps/1 Mbps—such as the 4 Mbps/ 1 Mbps benchmark suggested by

²⁶ 2015 *Broadband Progress Report*, 30 FCC Rcd at 1405 (para. 49) (emphasis added).

²⁷ AT&T Comments at 3.

²⁸ *Id.* at 14.

²⁹ *Id.* at 13.

CCA³⁰—would conflict with the statutory goal of identifying emerging consumer needs and capabilities. In U.S. Cellular’s view, an aspirational target of 10 Mbps/ 1 Mbps is a better way to promote investment in advanced telecommunications capability and accommodate consumers’ needs and preferences, especially in rural areas.

In addition, the 10 Mbps/1 Mbps benchmark is reflective of the type of advanced telecommunications capability that will best meet consumers’ emerging needs. Section 706 requires the Commission to examine the availability of “high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications”³¹ Viewed from the perspective of “emerging needs and capabilities,” setting the mobile broadband benchmark at 10 Mbps/1 Mbps will enable the Commission to determine the extent to which mobile broadband users will be able to access an array of advanced applications, including telemedicine, educational services, standard definition and high definition Internet protocol television, and high quality video for telecommuting functions.³²

Use of the 10 Mbps/1 Mbps benchmark will thus have the benefit of enabling mobile broadband users “to access current broadband services and encourag[ing] the growth of services that are still nascent. While the speed benchmark is consistent with services already being offered and

³⁰ CCA Comments at 10. CCA suggests, however, that application of a 4 Mbps/1 Mbps benchmark could be transitory:

In light of carriers moving to 4G LTE, and other rapidly advancing mobile technologies, perhaps the FCC should consider a two-tier benchmark adopting a higher speed like 10/1 in the second half of the year, after completing its evaluation and finding that carriers are deploying 4G LTE at a faster pace.

Id. In U.S. Cellular’s view, such an approach appears to be neither practical nor necessary.

³¹ 47 U.S.C. § 1302(c)(1).

³² See Vantage Point Solutions, *Providing World-Class Broadband: The Future of Wireless and Wireline Broadband Technologies* (Mar. 4, 2010), at 3 (Table 1), accessed at <http://vantagepnt.com/wp-content/uploads/2014/04/World-Class-Broadband-FINAL.pdf>.

adopted, it properly accommodates advanced capabilities and encourages deployment of new technologies and services.”³³

And, second, the Commission should reject AT&T’s assertion that Section 706 serves merely as “a kind of emergency alarm system.” The Commission, in the *2015 Broadband Progress Report*, appropriately and reasonably construed the statutory definition of “advanced telecommunications capability”—rather than embedding that definition in the current *status quo*, it is reasonable for the Commission to interpret the definition as encompassing emerging needs and capabilities. This approach enables efforts to benefit consumers by expanding the boundaries of available broadband services, and, if necessary, those efforts will be assisted by the Commission’s actions pursuant to its Section 706 mandate to promote broadband investment and competition.

U.S. Cellular also disagrees with an argument advanced by USTelecom that, “[b]ecause today’s broadband offerings provide a range of high-speed broadband capabilities that enable high-quality access to telecommunications, it is not necessary to impose additional speed benchmarks Providers have responded to consumers’ thirst for broadband access at home and work, and on the move”³⁴ In U.S. Cellular’s view, an objective “bright-line” test is useful in applying the Section 706 test regarding “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”³⁵ Since Section 706 requires the Commission to determine the availability of “high-speed, switched, broadband telecommunications capability” for providing high-quality voice, data, graphics, and video, it makes sense for the Commission’s

³³ *2015 Broadband Progress Report*, 30 FCC Rcd at 1405 (para. 49) (discussing the 25 Mbps/3 Mbps benchmark adopted by the Commission for fixed broadband).

³⁴ USTelecom Comments at 7. *See* Verizon Comments at 10-11.

³⁵ 47 U.S.C. § 706(b).

analysis to focus on a speed benchmark set at a level that, at a minimum, is capable of delivering these services and functions.

Finally, U.S. Cellular underscores a point made in its Comments: Adoption of the 10 Mbps/1 Mbps speed benchmark for mobile broadband should serve only as an aspirational benchmark for purposes of the Commission’s Section 706 analysis and findings, and for its promoting investment in mobile broadband networks pursuant to its Section 706 mandate. Adoption of the 10 Mbps/1 Mbps speed benchmark would not require mobile broadband providers to meet the same 10 Mbps/1 Mbps benchmark as a performance obligation in connection with their receipt of universal service support.³⁶

The Associations echo this argument, indicating that “it is a tall task indeed to ask [rural fixed broadband] carriers [receiving universal service support] to deliver materially higher speeds [*i.e.*, 25 Mbps/3 Mbps speeds] over time on the basis of a high-cost universal service program that is the same in scope and size as it was 5 years ago (when speed targets were only 4/1)”³⁷ As U.S. Cellular noted in its Comments, the Commission has made clear that the differing purposes served by Section 254 of the Communications Act of 1934 (“Act”)³⁸ and Section 706 have led the Commission to adopt Section 706 speed benchmarks higher than speed requirements adopted as public interest obligations pursuant to Section 254.³⁹

³⁶ U.S. Cellular Comments at 15.

³⁷ Associations Comments at 8.

³⁸ 47 U.S.C. § 254.

³⁹ U.S. Cellular Comments at 15 (citing *2015 Broadband Progress Report*, 30 FCC Rcd at 1407 (para. 54)).

2. The Commission Will Have Sufficient Data To Evaluate the Extent to Which 10 Mbps/1 Mbps Mobile Broadband Is Being Deployed.

Some commenters argue that the Commission should refrain from expanding its Section 706 analysis and findings to include mobile broadband deployment because it will lack data needed to make accurate evaluations and reach informed findings regarding the extent of deployment.⁴⁰ In U.S. Cellular’s view, however, there are several grounds for being more optimistic regarding the reliability and accuracy of mobile broadband data upon which the Commission will rely in undertaking its Section 706 reviews.

First, data collected through use of the revised FCC Form 477 should constitute a significant improvement over data that previously has been available to the Commission regarding mobile broadband deployment. As the Commission has explained, Form 477 data collection is mandatory, with carriers being required to certify the accuracy of their submitted data.⁴¹ These requirements should help to make the data comprehensive and as accurate as possible. Form 477 will use a uniform nationwide collection methodology,⁴² which will have benefits regarding the consistency and accuracy of the data. In addition, the ability to pinpoint areas in which mobile broadband has been deployed with speeds meeting or exceeding the Section 706 benchmark will be enhanced by a uniform methodology developed by the Commission.⁴³

⁴⁰ Associations Comments at 13-14 (discussing the “inherent limitations” of FCC Form 477); AT&T Comments at 4 (arguing that the use of minimum advertised speeds from FCC Form 477 “could only systematically undercount locations where actual download and upload speeds exceed the threshold for advanced capabilities”); CPUC Comments at 11, 15; Windstream Services, LLC (“Windstream”) Comments at 4.

⁴¹ *Notice* at para. 55.

⁴² *Id.*

⁴³ *Id.* Specifically, facilities-based mobile broadband providers must:

submit polygons in a shapefile format representing geographic coverage nationwide ... for each mobile broadband transmission technology ... deployed in each frequency band The data associated with each polygon should indicate the minimum advertised upload and

Second, the Commission will be able to supplement its FCC Form 477 data with additional data sources that can be used to check the accuracy of the Form 477 data and to assist in evaluating whether submitted data regarding minimum advertised mobile broadband speeds is understating actual speeds available to consumers.⁴⁴

Third, to the extent necessary or appropriate, the Commission may consider whether to develop methodologies for adjusting the minimum advertised speed data submitted by mobile broadband providers in FCC Form 477, for the purpose of refining the determination of areas where consumers have access to mobile broadband that meets or exceeds the Section 706 speed

download data speeds associated with that network technology in that frequency band (in Mbps, with a maximum of 3 decimal places), and the coverage area polygon should depict the boundaries where, according to providers, users should expect to receive those advertised speeds. ... If a provider does not advertise the minimum upload and/or download data speeds, the provider must indicate the minimum upload/download data speeds that users should expect to receive within the polygon depicting the geographic coverage area of the deployed technology in the given frequency band.

FCC Form 477, *Local Telephone Competition and Broadband Reporting*, Instructions at 24.

⁴⁴ The Commission, for example, will have access to crowdsourced data relating to mobile broadband speeds. The Commission has indicated that crowdsourced data may require adjustments to develop representative samples from the raw data, but it “can bring the benefits of generating a large volume of data at a very low cost and of measuring actual consumer experience on a network in a wide variety of locations, indoor and outdoor.” *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 13-135, Seventeenth Report, 29 FCC Rcd 15311, 15404 (para. 191) (Wireless Telecom. Bur. 2014) (“*Seventeenth Mobile Wireless Report*”). The Commission will be able to use data provided by Ookla, “one of the most prominent providers of crowdsourced data[.]” *id.* at 15406 (para. 192), which gathers data through the Speedtest mobile application that “is designed to test the performance of mobile cellular connections including LTE, 4G, 3G, EDGE, and EVDO networks.” *Id.* at 15406 (para. 193). The Commission will also be able to utilize its own FCC Speed Test application, used in the Measuring Broadband America program, which “test[s] the speed and performance of volunteers’ smartphone mobile broadband services.” *Id.* at 15407 (para. 195). An additional source of data is RootMetrics, which “runs a test program that measures mobile data, call, and text performance in all 50 states across the United States.” *Id.* at 15408 (para. 198). The Commission explains that “tests are conducted [by RootMetrics] in the 125 most populous metropolitan markets and within the 50 busiest U.S. airports. Each location is tested twice a year All tests, which are conducted solely on the networks of the four nationwide providers, are performed identically across all operators’ devices.” *Id.* at 15408-09 (para. 198) (footnote omitted).

benchmark. For example, the CPUC takes such an approach, explaining that, “[f]or the purposes of determining whether a location has mobile service that meets the [applicable] speed benchmarks, the CPUC has begun to use an interpolation of CalSPEED measurements that lowers mean test results at each test point by two standard deviations.”⁴⁵

And, *fourth*, the Commission may revisit on an ongoing basis its mechanisms and methodologies for collecting mobile broadband deployment data, for purposes of making any necessary or appropriate adjustments to refine and improve the accuracy of the data.⁴⁶

The bottom line is that there should not be any further delays in bringing mobile broadband into the Section 706 analysis, and such delays are not necessitated by concerns regarding the availability of sufficiently reliable and accurate data. While U.S. Cellular agrees that the Commission should always seek to optimize the quality and reliability of data used for its Section 706 analyses, and that the Commission’s goal should be to develop and optimize the means and methodologies to collect and utilize actual broadband speed data, U.S. Cellular also believes that reliance on minimum advertised speeds (supplemented and adjusted, as deemed necessary or appropriate by the Commission) will serve as a sufficient basis for use in the Commission’s evaluation of mobile broadband deployment.

⁴⁵ CPUC Comments at 11. CalSPEED “is an open source, non-proprietary, network performance measurement tool and methodology” created for the CPUC. *Seventeenth Mobile Wireless Report*, 29 FCC Rcd at 15410 (para. 201).

⁴⁶ See *Notice* at para. 58 (footnote omitted) (indicating that the Commission “may, in the future, need to revisit whether advertised speeds remain a good proxy for [fixed broadband] actual speeds”). Deere has suggested, for example, that the Commission should “consider ways to supplement its existing information collection to include broadband coverage in non-residential/consumer settings, and on a granular, real-world geographic basis.” Deere Comments at 19.

D. Mobile Broadband Currently Is Not Being Deployed in a Reasonable and Timely Fashion.

The Commission has invited comment “on whether advanced telecommunications capability is being deployed to all Americans on a reasonable and timely basis in light of the data and analysis in this proceeding [and] any changes to our analytical framework that may be adopted in this proceeding”⁴⁷ U.S. Cellular argues in its Comments that the inclusion of mobile broadband in the Commission’s Section 706 analysis would likely lead “to a finding that mobile broadband networks are not being deployed in a reasonable and timely manner, especially in rural areas”⁴⁸ There is support for this view in the record.

CCA observes, for example, that “significant gaps in population coverage exist today—particularly in rural areas.”⁴⁹ In California, “most rural and tribal areas have been left out of high quality LTE coverage in some significant ways.”⁵⁰ In Nebraska, recent speed tests reveal that no mobile broadband providers are delivering 10 Mbps download speeds in rural areas.⁵¹ Deere points to a related issue, explaining that “[l]arge swaths of agricultural areas in the United States (where people do not reside, but where they work and contribute to the rural and national economy) are wholly lacking broadband coverage.”⁵²

⁴⁷ Notice at para. 88.

⁴⁸ U.S. Cellular Comments at 3.

⁴⁹ CCA Comments at 13-14.

⁵⁰ CPUC Comments at 4.

⁵¹ Cullen Robbins, Telecom. Dept., Nebraska Public Service Commission, *Mobile Broadband in Nebraska, Data Collected Using the Mobile Pulse Application* (Aug. 2015) (“*Nebraska PSC Report*”) at 10 (Figure 8).

⁵² Deere Comments at 9 (footnote omitted).

Some commenters attempt to paint a different picture of the current state of mobile broadband deployment, but, as U.S. Cellular will demonstrate, these attempts are not persuasive. CTIA, for example, claims that mobile broadband providers are “eclipsing any ‘reasonable and timely’ standard[,]”⁵³ while Mobile Future declares that “[m]obile broadband deployment is not only reasonable and timely, it is remarkable”⁵⁴

CTIA and other commenters also present various statistics in an attempt to support their claims that mobile broadband deployment passes the “reasonable and timely” test. For example, CTIA indicates that 98.8 percent of Americans have access to two or more mobile broadband providers, and “[m]ore Americans now have access to high-speed 4G connectivity, with 4G traffic accounting for 72 percent of all mobile data traffic in the U.S. at the end of last year.”⁵⁵ AT&T indicates that, as of January 2014, “98.5 percent of Americans were covered by LTE”⁵⁶

⁵³ CTIA Comments at 5.

⁵⁴ Mobile Future Comments at 1. *See* AT&T Comments at 3 (arguing that, “[g]iven that the industry has achieved ubiquitous deployment of the most ‘advanced’ capabilities, the only legitimate conclusion is that mobile advanced services are being reasonably and timely deployed”); Verizon Comments at 1 (stating that “[t]here should be no doubt that broadband is being deployed in a reasonable and timely manner throughout the United States”).

⁵⁵ CTIA Comments at 5 (footnote omitted). Verizon states that its “4G LTE service is available to 98 percent of the U.S. population—nearly 308 million people.” Verizon Comments at 5 (footnote omitted).

⁵⁶ AT&T Comments at 7. AT&T indicates that its “facilities-based LTE network now covers about 96 percent of the U.S. population, and AT&T covers most other Americans (totaling more than 99 percent) through roaming agreements with other LTE providers.” *Id.* (footnote omitted).

The Commission also has referenced data indicating that 98.5 percent of the U.S. population lived in census blocks covered by an LTE network (as of January 2014),⁵⁷ and National Broadband Map⁵⁸ data indicates that 98.13 percent of the U.S. population had access to terrestrial mobile broadband at download speeds exceeding 10 Mbps (as of June 2014).⁵⁹

These arguments and data appear to validate claims that, even if the Commission adopts a 10 Mbps/1Mbps speed benchmark for mobile broadband, it would still be compelled to find that mobile broadband is being deployed in a reasonable and timely fashion because of the purportedly “ubiquitous” coverage provided by advanced mobile broadband networks. U.S. Cellular cautions, however, that, for the reasons discussed in the following sections, the arguments advanced and data cited do not support such a finding.

1. Reliability and Accuracy of Commission Data and National Broadband Map Data.

The Commission’s announcements that at least 98 percent of the U.S. population has access to advanced mobile broadband should be treated with skepticism because the Commission itself has questioned the reliability and accuracy of the data upon which its coverage estimates are based.

⁵⁷ *Seventeenth Mobile Wireless Report*, 29 FCC Rcd at 15341 (para. 59) (Table III.A.2). *See 2015 Broadband Progress Report*, 30 FCC Rcd at 1439 (para. 109) (indicating that “[a]s of January 2014, 98 percent of the [U.S.] population lived in census blocks covered by an LTE network”).

⁵⁸ The NBM, a searchable and interactive website enabling users to view broadband availability data, was created by the National Telecommunications and Information Administration (“NTIA”), in collaboration with the Commission and the states. The NBM is updated approximately every six months and was first published on February 17, 2011. *See National Broadband Map*, accessed at <http://www.broadband-map.gov/about>.

⁵⁹ Broadband Statistics Report, “Access to Broadband Technology by Speed” (Mar. 2015), accessed at <http://www.broadbandmap.gov/download/Technology%20by%20Speed.pdf>. The Commission, utilizing data also used for the NBM, has reported that, in 2013, mobile broadband with 10 Mbps/768 kbps speeds was available nationwide to 97 percent of the U.S. population. *2015 Broadband Progress Report*, 30 FCC Rcd at 1442 (para. 113, Table 15).

Specifically, in presenting in the *Seventeenth Mobile Wireless Report* its estimate that 98.5 percent of the U.S. population live in census blocks covered by an LTE network, the Commission explained that the analysis leading to this estimate “is based on U.S. census blocks overlaid on provider coverage maps provided to the Commission through a contract with Mosaik Solutions, an independent consulting firm that tracks coverage footprints of mobile voice and mobile data networks.”⁶⁰ The Commission further explained that it relied on a “centroid” method as the basis for determining coverage footprints for mobile broadband networks, and that, “[i]f the center point, or centroid, of a census block is within the coverage boundary of a map provided by Mosaik, then we consider the census block to be ‘covered’ by that provider and/or technology.”⁶¹ Thus, “[i]f a centroid is covered, then all of the population and land area in the corresponding census block is coded as covered as well.”⁶²

The Commission has conceded that analyses based on the centroid method may result in unreliable and inaccurate coverage estimates, “overstat[ing] the coverage actually experienced by consumers”⁶³ *First*, “although most census blocks are small, some can be large, particularly in low-density rural areas, and ... coverage at the centroid might result, incorrectly, in the entirety of those large areas being deemed served.”⁶⁴ *Second*, “[t]he data does not expressly account for factors such as signal strength, bit rate, or in-building coverage, and may convey a false sense of

⁶⁰ *Seventeenth Mobile Wireless Report*, 29 FCC Rcd at 15332-33 (para. 45) (footnotes omitted).

⁶¹ *Id.* at 15333 (para. 45) (footnote omitted).

⁶² *Id.* at 15333 (para. 45 n.68) (emphasis added).

⁶³ *Id.* at 15333 (para. 45 n.69). *See 2015 Broadband Progress Report*, 30 FCC Rcd at 1414-15 (para. 74).

⁶⁴ *Connect America Fund et al.*, WC Docket No. 10-90 *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17787 (para. 344) (2011), *aff’d sub nom. In re FCC 11-161*, 703 F.3d 1015 (10th Cir. May 23, 2014) (“*CAF Order*”) (acknowledging the disadvantages of the centroid method), *cited in* U.S. Cellular Comments, WC Docket No. 10-90 *et al.* (filed Jan. 12, 2012), at 26. U.S. Cellular argued that:

consistency across geographic areas and service providers”⁶⁵ And, *third*, “Mosaik reports advertised coverage as reported to it by many wireless service providers, each of which uses a different definition or determination of coverage.”⁶⁶

The Commission may be correct in finding that its analysis of mobile broadband coverage based on Mosaik data “is useful because it provides a general baseline that can be compared over time across network technologies, and providers[,]”⁶⁷ but the Commission’s criticisms of the reliability and accuracy of this data cast a cloud over its claim that 98.5 percent of the U.S. population live in census blocks covered by an LTE network. The Commission’s reservations and caveats regarding coverage data should prompt considerable caution in making any assumptions or assertions regarding the extent to which advanced mobile broadband networks are deployed nationwide.

In addition, there are reasons to doubt the reliability and accuracy of the National Broadband Map data, which is generated as part of NTIA’s State Broadband Initiative (“SBI”).⁶⁸ Specifically, the Commission has expressed reservations regarding the reliability and accuracy of data

Instead of focusing on ways to reduce the level of disbursements from the Mobility Fund (which would be the result of employing the centroid method), the Commission’s policies should seek to find ways to ensure that consumers throughout all portions of a service area are provided with access to 4G mobile broadband, in a manner comparable to the availability of 4G broadband in urban areas.

Id. See U.S. Cellular Comments, WC Docket No. 10-90, WT Docket No. 10-208 (filed Dec. 21, 2012), at 19 (arguing that “the centroid method serves as another example of policies and funding ground rules that reduce areas that are treated as eligible for support, leading to the appearance that the Commission’s constricted Mobility Fund budget is sufficient even though it is only funding mobile broadband deployment in a shrunk universe of eligible service areas”).

⁶⁵ *Seventeenth Mobile Wireless Report*, 29 FCC Rcd at 15333 (para. 45 n.69).

⁶⁶ *Id.* The Commission also notes that “Mosaik network coverage does not necessarily mean that service is being offered to any or all residents in the census block.” *2015 Broadband Progress Report*, 30 FCC Rcd at 1439 (para. 108 n.389).

⁶⁷ *2015 Broadband Progress Report*, 30 FCC Rcd at 1403 (para. 45).

⁶⁸ SBI is an NTIA program to “assist states in gathering data twice a year on the availability, speed, and location of broadband services, as well as the broadband services that community institutions, such as

collected through the SBI processes, indicating, for example, that the SBI data is “imperfect[,]”⁶⁹ it is produced as part of a voluntary data collection,⁷⁰ it is “not required to be certified,”⁷¹ it is submitted in filing formats that can vary among jurisdictions,⁷² and it “identif[ies] the maximum speed a provider asserts it can deliver, if requested”⁷³

The Commission concluded in the *2015 Broadband Progress Report* that SBI data, “while useful for measuring developments in mobile broadband deployment, have certain limitations that likely overstate the extent of deployment of 4G and LTE mobile broadband services and deployment of 10 Mbps/768 kbps speeds or higher. Several commenters agree that these data sources are imprecise or unreliable.”⁷⁴ In a previous report, the Commission had concluded that the SBI data “may overstate [mobile broadband] deployment to a significant degree[.]”⁷⁵ and the Commission also indicated that, “[w]ith respect to the SBI Data on mobile deployment, we have concerns that providers are reporting services as meeting the broadband speed benchmark when they likely do not.”⁷⁶

schools, libraries and hospitals, use. This data is used by NTIA to update the National Broadband Map” See NTIA, BroadbandUSA, State Broadband Initiative, *accessed at* <http://www2.ntia.doc.gov/sbdd>.

⁶⁹ *2015 Broadband Progress Report*, 30 FCC Rcd at 1412 (para. 68).

⁷⁰ *Id.*

⁷¹ *Id.* at 1415 (para. 75 n.291).

⁷² *Id.*

⁷³ *Id.* at 1412 (para. 68).

⁷⁴ *Id.* at 1415 (para. 74) (emphasis added) (footnote omitted), *cited in* U.S. Cellular Comments at 16. These Commission concerns also applied to Mosaik data. *Id.*

⁷⁵ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121, Eighth Broadband Progress Report, 27 FCC Rcd 10342, 10366 (para. 35) (2012) (emphasis added).

⁷⁶ *Id.* at 10366 (para. 37).

The Commission’s concerns regarding SBI data that is used for the NBM to provide information concerning mobile broadband deployment raise substantial doubts concerning the reliability and accuracy of NBM reports showing nearly ubiquitous nationwide mobile broadband deployment at 10 Mbps download speeds. Stated another way, the Commission should “stop citing a wireless coverage map that infers the job is done when people in the real world know it is not.”⁷⁷

In any event, as U.S. Cellular explains in the next section, rather than focusing on the extent of nationwide deployment, a more pertinent inquiry—and one that is ignored by commenters claiming that mobile broadband meets the Section 706 “reasonable and timely” test—involves the extent of coverage provided by advanced mobile broadband networks in rural areas.

⁷⁷ Letter from Joe Manchin III, U.S. Sen., to Thomas Wheeler, Chairman, FCC (Sept. 22, 2015), at 2 (advocating additional universal service funding for mobile broadband deployment and services). A revealing “real world” perspective was recently provided by Smith Bagley, Inc. (“Smith Bagley”), referencing a CBS Sunday Morning story regarding living conditions in Navajo Nation communities. Smith Bagley indicated that the news report:

helps to illustrate problems that [Smith Bagley] experiences in bringing reliable wireless service to citizens living on Tribal lands. These problems include long distances between homes and stores or other facilities [and] limited utilities and personal transportation options Conditions described in the CBS News segment extend to many other Tribal lands, not just those in the southwest region of the United States. Large distances and difficult demographics combine to make it exponentially more difficult for any infrastructure provider to deliver goods and services in these areas.

Smith Bagley Comments, WC Docket No. 11-42 *et al.* (filed Aug. 31, 2015), at 6 (citing *The Water Lady: A Savior Among the Navajo*, CBS NEWS (Aug. 16, 2015), *accessed at* <http://www.cbsnews.com/news/the-water-lady-a-savior-among-the-navajo/>). *See* Broadband Opportunity Council, REPORT AND RECOMMENDATIONS PURSUANT TO THE PRESIDENTIAL MEMORANDUM ON EXPANDING BROADBAND DEPLOYMENT AND ADOPTION BY ADDRESSING REGULATORY BARRIERS AND ENCOURAGING INVESTMENT AND TRAINING 6 (Aug. 20, 2015) (indicating that “[s]ome parts of the country, mostly rural and Tribal lands, are connectivity deserts—regions with little or no access to broadband—or ‘parched’ with broadband coverage inadequate to meet community needs”).

2. Deployment of Mobile Broadband Networks in Rural Areas.

Section 706 requires the Commission to determine whether advanced telecommunications capability is being deployed in a reasonable and timely fashion to “all Americans[.]”⁷⁸ not just Americans in urban areas.⁷⁹ Arguments made by some commenters that mobile broadband deployment meets the Section 706 “reasonable and timely” test are flawed because, although these commenters attempt to address mobile broadband deployment generally, they fail to focus on deployment in rural areas.⁸⁰ The Commission has “recognize[d] that an analysis of coverage at the nationwide level provides only a general benchmark. A nationwide average will mask regional disparities in coverage and create an overall picture that does not capture variances across the country.”⁸¹

Given this blind spot in the arguments and data presented by these commenters, the fact is that, even assuming *arguendo* that their claims regarding the extent of nationwide mobile broadband coverage are accurate—which they decidedly are not—these claims, standing alone, cannot drive a positive Section 706 finding by the Commission.

The Commission, in contrast, has focused on the extent to which consumers in rural America have access to mobile broadband, and it has indicated, for example, that, “[a]s of December 31, 2013, while mobile 10 Mbps/768 kbps service was ubiquitous in urban areas, 11 percent of

⁷⁸ 47 U.S.C. 1302(b).

⁷⁹ See *2015 Broadband Progress Report*, 30 FCC Rcd at 1378 (para. 5) (emphasis in original) (stating that “Congress made clear that all Americans should receive the benefits that advanced broadband can provide”).

⁸⁰ Other than Verizon’s alluding to its “LTE in Rural America” program, Verizon Comments at 5, parties claiming that mobile broadband is being deployed in a reasonable and timely fashion provide virtually no analysis or documentation of the extent of this deployment in rural areas.

⁸¹ *Seventeenth Mobile Wireless Report*, 29 FCC Rcd at 15333 (para. 45 n.69).

Americans living in rural areas lived in census blocks without mobile broadband network coverage.”⁸² The Commission has also cited a CPUC study providing “evidence ... of a new, and growing, digital divide for mobile broadband—between urban, rural and Tribal demographics.”⁸³ Further, a study of NBM data commissioned by CCA has indicated that:

[R]ural wireless broadband coverage, and service offerings at download speeds above 3 Mbps in the states sampled often falls below 90 percent. Indeed, wireless coverage in rural counties ranges as low as 76.7 percent of the population in West Virginia and 81.1 percent in North Carolina. Furthermore service coverage at download speeds at or above 3 Mbps ranges as low as 78.6 percent in Kentucky and 86.3 percent in New Hampshire.⁸⁴

In addition, the *Nebraska PSC Report* indicates that mobile broadband download speeds are as low as 1.5 Mbps in rural Nebraska, and that no carriers providing mobile broadband service in rural areas are delivering download speeds at or above 10 Mbps.⁸⁵

⁸² 2015 *Broadband Progress Report*, 30 FCC Rcd at 1440 (para. 109). That percentage, which is derived from SBI data, *see id.* at 1442 (para. 113 (Table 15)), in actuality is likely higher, for the reasons explained by the Commission and discussed in Section II.D.1., *supra*.

⁸³ *Id.* at 1440 (para. 110) (internal quotation marks omitted). As U.S. Cellular has noted, the CPUC has reiterated its concerns regarding a rural-urban digital divide in this proceeding. *See* CPUC Comments at 4.

⁸⁴ CCA Comments, WC Docket No. 10-90 *et al.* (filed Aug. 8, 2014) at 8 (footnote omitted) (citing Declaration of Dr. Raul Katz, Telecom Advisory Services, LLC), *cited in* CCA Comments at 14 n.48. The analysis by Dr. Katz did not address mobile broadband coverage at or above 10 Mbps/1 Mbps speeds, but it is likely that coverage at such speeds is below the percentages cited in Dr. Katz’s study for coverage at or above 3 Mbps.

⁸⁵ *Nebraska PSC Report* at 10 (Figure 8). The *Report* notes that there did not appear to be a wide divide between mobile broadband download speeds in urban and rural areas; two carriers had download speeds significantly faster in urban areas, one carrier (U.S. Cellular) had download speeds that were nearly identical in urban and rural areas, and two carriers had download speeds that were faster in rural areas. *Id.* at 9. The Nebraska data, however, may not be probative regarding the extent of a nationwide urban-rural digital divide, because, for purposes of the Nebraska PSC’s analysis, “urban tests were considered to be those collected within the city limits of any community in Nebraska. Those tests collected outside of city limits were considered rural tests.” *Id.* It is possible that this definition of rural areas may be more encompassing than other measures. For example, the Commission, noting that the Act “does not include a statutory definition of what constitutes a rural area[,]” has explained that, in examining “deployment of wireless services in rural areas, [it] has used a ‘baseline’ definition of rural as a county with a population density of 100 persons or fewer per square mile.” *Seventeenth Mobile Wireless Report*, 29 FCC Rcd at 15336 (para. 52) (footnotes omitted). The Commission has used this definition since 2004. *Id.* There is a possibility that the *Nebraska PCS Report* may have treated as “rural” areas with population densities exceeding the population

CTIA, however, takes a different tack, suggesting, in effect, that commenters' failure to address mobile broadband deployment in rural areas is irrelevant. It appears to take the position that the status of mobile broadband deployment in rural areas does not need to be part of the equation as the Commission evaluates whether broadband is being deployed in a reasonable and timely fashion, noting that, although "there remain pockets of the country where no private sector case exists for the provision of high-speed mobile broadband[,]"⁸⁶ providing support for mobile deployment in these areas would be "consistent with the overall conclusion that mobile broadband [deployment] remains reasonable and timely."⁸⁷

In other words, CTIA appears to argue that it does not matter whether the Commission makes any determination regarding whether mobile broadband deployment in rural areas passes the "reasonable and timely" test because the Commission can continue to support rural broadband deployment even if it decides that overall broadband deployment is reasonable and timely.

This view is not objectionable, as far as it goes, in that the Commission has an ongoing obligation to facilitate broadband deployment in rural and other high-cost areas that are unserved or underserved. On the other hand, however, U.S. Cellular believes that the Commission's Section 706 determination does matter. If the Commission finds that mobile broadband deployment does not pass the "reasonable and timely" test, then the Commission will have a data-driven mandate

density used by the Commission in its definition of "rural." In addition, it may be instructive that data published by the Commission regarding the availability of fixed broadband in urban and rural areas demonstrates a wide divide. Specifically, the Commission has indicated that 8 percent of the U.S. urban population does not have access to fixed 25 Mbps/3 Mbps broadband, compared to 53 percent of the U.S. rural population (32.6 million people). *2015 Broadband Progress Report*, 30 FCC Rcd at 1471 (App. D).

⁸⁶ CTIA Comments at 15 (footnote omitted).

⁸⁷ *Id.* Similarly, ADTRAN questions the Commission's failure to ask the question in the *Notice* whether it could find broadband deployment to be reasonable "[i]f the only underserved areas where slow deployment progress was occurring were very low-density and very high-cost—which would not be served without massive subsidies" ADTRAN Comments at 4.

“to reinvigorate its efforts to promote mobile broadband deployment in rural America.”⁸⁸ As U.S. Cellular discussed in its Comments,⁸⁹ and addresses further below,⁹⁰ a Section 706 finding that mobile broadband deployment in rural areas is lagging behind—opening up an even greater rural-urban digital divide—should prompt the Commission to invoke its Section 706 mandate by revisiting and reconfiguring its universal service policies in order to provide additional support for mobile broadband deployment.

In any event, and significantly, the Commission made clear in the *2015 Broadband Progress Report* that broadband deployment in rural areas is a central component of its Section 706 inquiry, stating that “Americans living in rural areas and on Tribal lands disproportionately lack access to [fixed] broadband[.]”⁹¹ and finding, therefore, that fixed “broadband is not being deployed in a reasonable and timely fashion because it is not yet available to the majority of rural and Tribal Americans and not becoming available quickly enough.”⁹² The Commission explained that:

In addition to examining deployment nationwide, we take a hard look at whether parts of our country are being left behind. A digital divide persists between urban and non-urban parts of the country. The data show that this divide exists for [fixed] broadband service at a variety of speeds. The data also show that the problem is one of supply, not demand. Consumers in rural America adopt broadband at the same rates as consumers in urban areas.⁹³

⁸⁸ U.S. Cellular Comments at 18.

⁸⁹ *Id.* at 6-14.

⁹⁰ See Section II.F., *infra*.

⁹¹ *2015 Broadband Progress Report*, 30 FCC Rcd at 1378 (para. 6) (footnote omitted).

⁹² *Id.* (footnote omitted).

⁹³ *Id.* at 1378 (para. 5) (emphasis added).

The Commission also determined that “[r]ural America continues to be underserved [by fixed broadband service] at all speeds: 20 percent lack access even to service at 4 Mbps/1 Mbps, down only 1 percent from 2011, and 31 percent lack access to 10 Mbps/1 Mbps, down only 4 percent from 2011.”⁹⁴

The Commission should now take a “hard look” at the status of mobile broadband deployment in rural America. If it makes the likely finding that there is a disparity between urban and rural mobile broadband deployment, and that there is a significant gap in rural coverage at the 10 Mbps/1 Mbps benchmark speed, then the Commission should find that broadband is not being deployed in a reasonable and timely fashion.

E. The Commission Should Not Include Criteria in Addition to Speed Benchmarks in Its Section 706 Analysis of Advanced Broadband Availability.

The Commission has proposed to continue using speed as a criterion to assess advanced telecommunications capability, and it also “seek[s] comment on adding additional criteria to the definition of advanced telecommunications capability in the next [broadband progress] report, such as latency and the consistency of service.”⁹⁵

While a few commenters support the use of additional criteria,⁹⁶ there is substantial opposition in the record to the adoption of any criteria in addition to speed benchmarks.⁹⁷ U.S. Cellular

⁹⁴ FCC News, “FCC Finds U.S. Broadband Deployment Not Keeping Pace,” Doc. 331760 (Jan. 29, 2015).

⁹⁵ *Notice* at para. 20.

⁹⁶ *See* Public Knowledge Comments at 6; ViaSat, Inc. (“ViaSat”) Comments at 2. *But see* ViaSat Comments at 6-7 (opposing the adoption of a latency benchmark).

⁹⁷ *See, e.g.*, AT&T Comments at 17; CCA Comments at 11-12; CTIA Comments at 6-8; Mobile Future Comments at 6; NCTA Comments at 8; USTelecom Comments at 7-9; Verizon Comments at 10-13; Windstream Comments at 4; WISPA Comments at 5.

agrees with CCA that the Commission “should not incorporate mobile broadband latency or consistency of service metrics as part of determining whether ‘advanced telecommunications capability’ is available[,]”⁹⁸ nor should it adopt a “consistency of service” metric as part of such determination.⁹⁹

F. The Commission Should Carry Out Its Section 706 Mandate by Facilitating Mobile Broadband Deployment, Especially in Rural America.

If the Commission makes a negative determination regarding the availability of advanced telecommunications capability to all Americans, it is charged by Section 706(b) with the obligation to “take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”¹⁰⁰

This mandate is particularly important in rural areas because:

All Americans, whether they live in rural or urban areas, should have access to robust and affordable broadband services—as well as the ability to use those services—in order to take advantage of the many opportunities the digital revolution has created. ... [B]roadband is critical to bringing these benefits to rural areas, which are less likely than urban areas to have broadband available.¹⁰¹

U.S. Cellular advocated in its Comments that the Commission, if it determines pursuant to Section 706 that mobile broadband is not being deployed in a reasonable and timely fashion in

⁹⁸ CCA Comments at 11. CCA explains that “latency does not effectively measure the quality of mobile broadband as it does with fixed broadband.” *Id.*

⁹⁹ *Id.* CCA observes that “[t]here are many factors impacting consistency of service that are wholly outside of a network operator’s control.” *Id.* at 11-12 (footnote omitted).

¹⁰⁰ 47 U.S.C. § 1302(b).

¹⁰¹ FCC, BRINGING BROADBAND TO RURAL AMERICA: UPDATE TO REPORT ON A RURAL BROADBAND STRATEGY, GN Docket No. 11-16, Report to Congress, 26 FCC Rcd 8681, 8683 (para. 2) (2011) (footnotes omitted). *See* Remarks of Michael O’Rielly, FCC, Representative Dave Brat (R-VA) Town Hall (Sept. 23, 2015), at 2 (noting that “broadband is one of the unique technologies that actually can reduce distances and allow Americans to work, raise families, and experience life from nearly anywhere.... [B]roadband allows people, especially our youth, to stay in their local communities. No longer do people need to congregate in one specific place for a business to succeed. In a growing number of instances people can—and do—work anywhere their hearts desire—if they only have a broadband connection.”).

rural America, should pursue its Section 706 mandate by redirecting additional universal service funding for use in deploying mobile broadband services, by developing rules that provide mobile broadband carriers with a realistic opportunity to participate in the Connect America Fund (“CAF”) Phase II competitive bidding process, and by developing universal service policies for the Mobility Fund that benefit consumers in rural areas by promoting competition.¹⁰²

U.S. Cellular’s position finds support in the record.¹⁰³ As a general matter, NCTA observes that “[t]he bottom line is that while the annual Section 706 report provides an excellent opportunity for the Commission and the public to identify gaps in broadband deployment, that reporting process ultimately is meaningless if the Commission does not also take timely steps to fill those gaps.”¹⁰⁴ More specifically, the Associations argue that, “[t]o ensure that the goals of section 706 are met for all Americans—including those living in rural areas—the Commission should ... improve and enhance the high-cost universal service program.”¹⁰⁵

¹⁰² U.S. Cellular Comments at 6-14.

¹⁰³ Several commenters suggest actions the Commission should take, in addition to revising and redirecting its universal service support mechanisms and policies, to promote mobile broadband deployment in rural areas, *e.g.*, providing access to additional spectrum (CCA Comments at 15-17; CTIA Comments at 10; Verizon Comments at 13), promoting commercially reasonable roaming arrangements (CCA Comments at 17-18), removing barriers to facility and infrastructure deployment (CCA Comments at 20; Verizon Comments at 14), and adopting special access reform measures to ensure competitive arrangements for backhaul services (CCA Comments at 18-19).

¹⁰⁴ NCTA Comments at 6. *See* Deere Comments at 4 (explaining that, “[t]o start closing the gaps where broadband availability is lacking, the Commission should utilize [CAF], and the Mobility Fund in particular, to incentivize broadband deployment to cropland areas”).

¹⁰⁵ Associations Comments at 9 (emphasis in original). *See id.* at 15-16 (emphasis in original) (observing that, “in considering ways to resolve differences in ‘availability’ of advanced telecommunications services, the Commission must address sustainability of broadband services in rural areas. ... Rural broadband is not just about deployment.”).

CTIA argues that “the FCC should not reduce Mobility Fund support, rather the Commission should proceed under Section 254 to promptly implement its plans for Mobility Fund Phase II, which is designed to reach ... areas” where no business case exists for mobile deployment.¹⁰⁶

CTIA also has explained in a previous proceeding that “the Commission must acknowledge that it would be contradictory to find that mobile broadband deployment has been so robust that the Mobility Fund budget should be reduced, yet also find [pursuant to Section 706] that mobile broadband deployment has not been reasonable and timely.”¹⁰⁷ This argument can be taken one step further: It would be consistent, and sound public policy, for the Commission to augment Mobility Fund support, and to take additional funding actions to promote mobile broadband deployment, if the Commission makes a Section 706 finding that mobile broadband is not being deployed in a reasonable and timely fashion.

CCA agrees with U.S. Cellular that the Commission’s restructuring of its Universal Service Fund program in 2011 has impeded deployment of mobile broadband networks,¹⁰⁸ and urges the Commission to “seize on opportunities to change course.”¹⁰⁹ The Commission’s Section 706 man-

¹⁰⁶ CTIA Comments at 13.

¹⁰⁷ CTIA Comments, GN Docket No. 14-126 (filed Mar. 6, 2015), at 12.

¹⁰⁸ See CCA Comments at 14.

¹⁰⁹ *Id.*

date would provide such an opportunity. As Commissioner Clyburn has suggested, the Commission should address “the lack of movement on adopting a permanent Mobility Fund”¹¹⁰ and should ensure that “consumers in unserved areas ... have service that most of us take for granted.”¹¹¹

As noted above, U.S. Cellular argued in its Comments that the Commission should open up the CAF Phase II competitive bidding process to mobile broadband providers. NCTA makes a related observation that “[c]ompetitive bidding for [CAF Phase II] subsidies rather than offering the telephone companies exclusive access to billions of dollars in support would have resulted in better, faster broadband speeds at competitive prices.”¹¹² At a minimum, the Commission should use its Section 706 mandate as a basis for ensuring that the Phase II auction is not merely a means for price cap carriers to obtain even more Phase II funding (without being subject to state-level commitments), but instead serves as a realistic opportunity for competing service providers, including mobile broadband providers, to bid for Phase II support.¹¹³

¹¹⁰ Prepared Remarks of FCC Commissioner Mignon L. Clyburn, Rural Wireless Ass’n Summit (Sept. 10, 2015), at 4.

¹¹¹ *Id.* See Deere Comments at 24 (arguing that “[t]he FCC should expeditiously adopt rules for the [Mobility Fund] Phase II Auction that would promote broadband deployment in unserved and underserved rural areas”); CCA Comments at 14-15 (footnote omitted):

Phase II of the Mobility Fund should be implemented in a manner that reflects the full extent to which large portions of the country still lack access to such services. This means that the Commission should not reduce the amount of funding made available based on inflated claims by AT&T and Verizon of their alleged mobile broadband deployments throughout the United States.

¹¹² NCTA Comments at 3 (footnote omitted).

¹¹³ See U.S. Cellular Comments at 12:

It should be anathema to policy makers that regulation should protect any class of company from competition. Yet, the revisions to the universal service mechanism made by the Commission in 2011 in the *CAF Order* have served to limit competition in rural areas, reducing investment by companies such as U.S. Cellular.

Finally, the Commission has sought comment regarding whether it should continue considering factors beyond physical deployment in determining whether broadband is being deployed in a reasonable and timely fashion, and has specifically asked for comment “on whether [it] should consider the extent to which consumers have access to multiple service providers”¹¹⁴

ADTRAN finds it “odd”¹¹⁵ that the Commission would consider such a factor in its Section 706 analysis, “particularly because the Commission recently eliminated universal service subsidization of multiple providers in the same territory.”¹¹⁶ In U.S. Cellular’s view, the Commission should consider the presence of competition as part of its Section 706 analysis, and, if it determines that there is an absence of effective competition, it should take necessary and appropriate steps, pursuant to its Section 706 mandate, to restore competitive policies, and pro-competitive mechanisms, to its universal service program.¹¹⁷

III. CONCLUSION.

The record provides considerable support for the Commission to include mobile broadband in its analysis and findings in its next report on broadband progress, to use a 10 Mbps/1 Mbps speed benchmark for mobile broadband, to decide that mobile broadband is not being deployed in a reasonable and timely fashion, especially in rural areas, and to make an overall finding that broadband deployment does not meet the “reasonable and timely” test (which the Commission

¹¹⁴ *Notice* at para. 51.

¹¹⁵ ADTRAN Comments at 9.

¹¹⁶ *Id.* (footnote omitted) (citing *CAF Order*, 26 FCC Rcd at 17767 (para. 281), 17779 (para. 316)).


¹¹⁷ See CCA Comments at 13. U.S. Cellular has urged the Commission to utilize pro-competitive policies in developing the ground rules for universal service support, arguing that “[a] government sanctioned and subsidized monopoly carrier that discourages competitive entry and must be heavily regulated denies rural consumers the benefit of having reasonably comparable facilities, as Congress set forth in Section 254 of the Act.” U.S. Cellular Comments at 13.

should apply by requiring that both fixed and mobile broadband deployment must be deployed in a reasonable and timely fashion).

U.S. Cellular respectfully suggests that, based on this overall finding, the Commission should carry out its mandate under Section 706, to remove barriers to infrastructure investment and to promote competition in the telecommunications market, by engaging in a further transformation of its universal service program to rectify lapses in the provision of sufficient support for mobile broadband deployment.

Respectfully submitted,

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